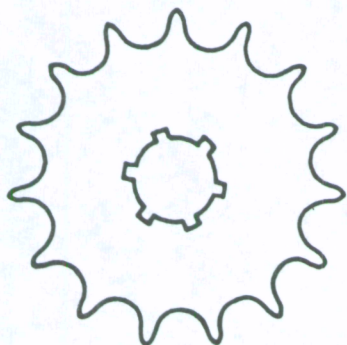
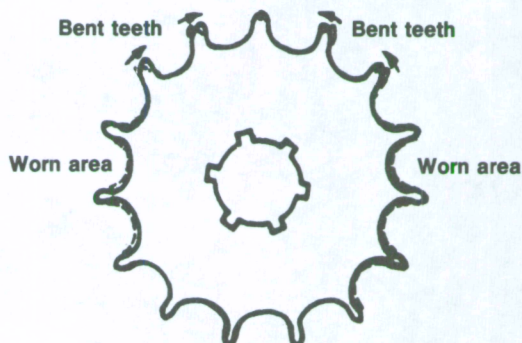


77



GOOD



WORN

is necessary to partially disassemble the rear axle. Consider replacing the factory drive chain with an aftermarket type chain equipped with a master link.

1. Remove the recoil starter and alternator as described in Chapter Seven.
2. Remove the subtransmission as described in this chapter.
3. Remove the left-hand crankcase cover as described in Chapter Four.
4. Remove the rear axle, drive chain, drive sprocket and bushings as an assembly as described in Chapter Eight.
5. Install by reversing these removal steps, noting the following.
6. Adjust the drive chain as described in Chapter Three.

### Inspection

1. Inspect the teeth on the drive sprocket. If the teeth are visibly worn (Figure 77), replace the sprocket with a new one.
2. If the sprocket requires replacement, the drive chain is probably worn also and should be replaced.
3. On ATC110 and ATC125M models, measure the inside and outside diameter of the drive sprocket bushings. Replace if worn to the following service limit dimensions:
  - a. Inside diameter: 19.94 mm (0.785 in.).
  - b. Outside diameter: 21.90 mm (0.862 in.).

### TRANSMISSION AND INTERNAL SHIFT MECHANISM

To gain access to the transmission and internal shift mechanism it is necessary to remove the engine and split the crankcase. Once the crankcase has been split, removal of the transmission and shift drum and forks is a simple task of pulling the assemblies up and out of the crankcase. Installation is more complicated and is covered more completely than the removal sequence.

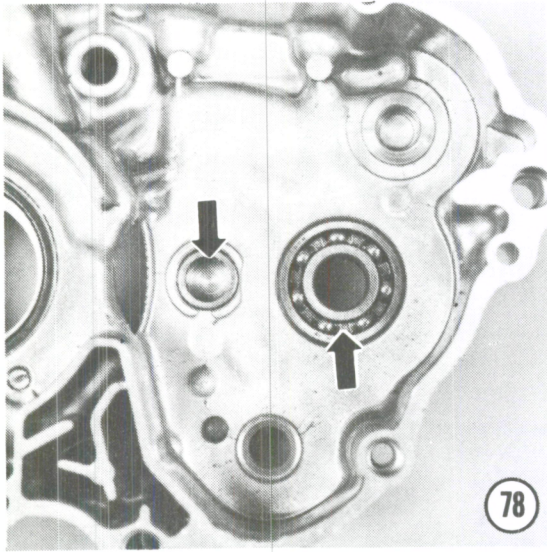
Refer to **Table 2** for specifications for the internal shift mechanism and **Table 3** for specifications for the transmission components. Honda does not provide specifications for all models.

Different transmissions are used among the various models. They are covered in separate procedures; be sure to use the correct procedure for your specific model.

### PRELIMINARY TRANSMISSION INSPECTION (ALL MODELS)

After the transmission shaft assemblies have been removed from the crankcase halves, clean and inspect the assemblies prior to disassembling them. Place the assembled shaft into a large can or plastic bucket and thoroughly clean with a petroleum based solvent such as kerosene and a stiff brush. Dry with compressed air or let it sit on rags to drip dry. Repeat for the other shaft assembly.





1. After they have been cleaned, visually inspect the components of the assemblies for excessive wear. Any burrs, pitting or roughness on the teeth of a gear will cause wear on the mating gear. Minor roughness can be cleaned up with an oilstone but there's little point in attempting to remove deep scars.

#### NOTE

*Defective gears should be replaced. It's a good idea to replace the mating gear on the other shaft even though it may not show as much wear or damage.*

2. Carefully check the engagement dogs. If any are chipped, worn, rounded or missing, the affected gear must be replaced.
3. Rotate the transmission bearings in the crankcases by hand. Refer to **Figure 78**. Check for roughness, noise and radial play. Any bearing that is suspect should be replaced. Refer to *Bearing and Oil Seal Replacement* in Chapter Four.
4. If the transmission shafts are satisfactory and are not going to be disassembled, apply assembly oil or engine oil to all components and reinstall them in the crankcase as described in this chapter.

#### NOTE

*If disassembling a used, well run-in transmission for the first time by yourself, pay particular attention to any additional shims that may have been added by a previous owner. These may have been added to take up the tolerance of worn components and must be reinstalled in the same position since the shims have developed a wear*

*pattern. If new parts are going to be installed these shims may be eliminated. This is something you will have to determine upon reassembly.*

### 3-SPEED TRANSMISSION AND INTERNAL SHIFT MECHANISM (70 CC)

The 3-speed transmission shown in **Figure 79** is used on the 1973-1981 ATC70.

#### Removal/Installation

1. Remove the engine and split the crankcase as described in Chapter Four.
2. Pull the shift fork shaft assembly, main shaft assembly and the countershaft assembly up and out of the crankcase as an assembly.
3. Disassemble and inspect the shift forks and transmission assemblies as described in this chapter.
4. Coat all bearings and sliding surfaces of both transmission assemblies and the shift drum with assembly oil.
5. Install the 2 transmission assemblies and the shift drum assembly by meshing them together in their proper relationship to each other. Install them in the left-hand crankcase. Hold the thrust washer on the main shaft in place with your fingers (**Figure 80**). Make sure it is still positioned correctly after the assemblies are completely installed. After both assemblies are installed, tap on the end of both shafts and the shift drum assembly (**Figure 81**) with a plastic or rubber mallet to make sure they are completely seated.

#### NOTE

*If the thrust washer on the end of the main shaft does not seat correctly it will hold the transmission shaft up a little and prevent the crankcase halves from seating completely.*

6. Spin the transmission shafts and shift through the gears using the shift drum. Make sure you can shift into all gears. This is the time to find that something may be installed incorrectly—not after the crankcase is completely assembled.

#### NOTE

*This procedure is best done with the aid of a helper as the assemblies are loose and won't spin very easily. Have the helper spin the transmission shaft while you turn the shift drum through all the gears.*

7. Make sure that the thrust washer (**Figure 82**) is installed on the countershaft.
8. Assemble the crankcase as described in Chapter Four.

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